

18. Outline the phases of vermicomposting, detailing the progression of organic matter decomposition and nutrient transformation throughout the process.
19. Identify the common pests and diseases that can affect vermicompost systems, such as rodents, mites, sour crop, and fungal infections.
20. How does the quantity of vermicompost applied in agricultural fields affect the stages of nutrient cycling and soil health?



APRIL/MAY 2024

23PSMB25 — VERMITECHNOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Explain the economic importance of Vermicompost.
2. How do earthworms play a crucial role in vermicompost?
3. Design the life cycle of E.fetida.
4. List out the species of earthworms.
5. Outline the mesophilic phase.
6. Simplify the continuous flow system.
7. Analyze the odour problems.
8. Theme of separation techniques.
9. Define vermin casting and its role in organic farming practices.
10. What is forest regeneration?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Examine the main components of vermicompost.

Or

(b) Investigate the economic significance of local and exotic earthworm species in agriculture, composting, and vermiculture industries.

12. (a) Which type of environment condition is need to survey earthworms.

Or

(b) Elaborate the impact of *Eisenia fetida* earthworms on the biodiversity and nutrient cycling dynamics within vermicomposting systems.

13. (a) Summarize the mechanisms of earthworm action and the development.

Or

(b) Develop a comprehensive vermicomposting manual for beginners, including step-by-step instructions, troubleshooting tips, and educational resources.

14. (a) Originate a protocol for collecting vermicompost samples and conducting nutrient analysis in a laboratory setting.

Or

(b) Propose methods to minimize stress and damage to earthworms during the harvesting process.

15. (a) Design a sustainable agricultural system that integrates vermiculture with other biotechnological approaches to enhance soil fertility.

Or

(b) Evaluate the environmental benefits of using pelleted vermicompost over synthetic fertilizers.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. List the suitable components necessary for setting up a vermiculture.

17. Analyze the role of *Eudrilus eugeniae* worms in a vermiculture system.